

FIG. 1  
(Prior Art)

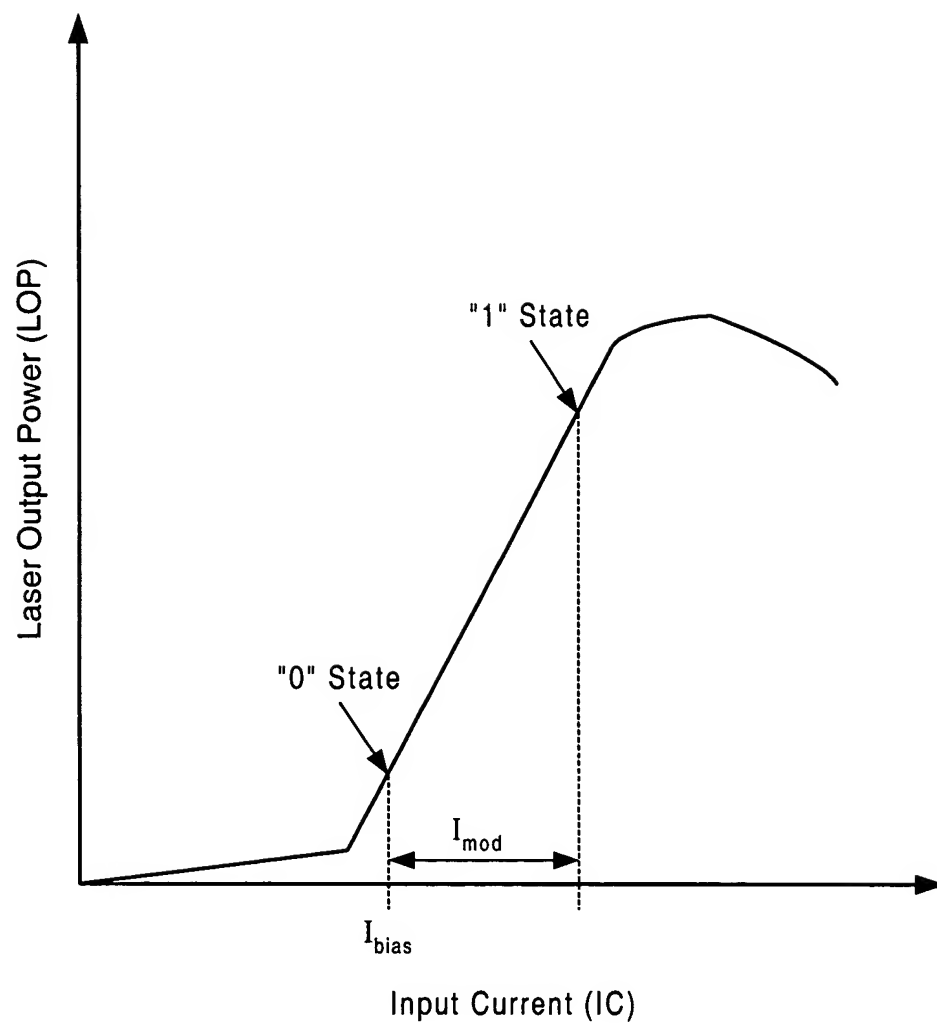


FIG. 2

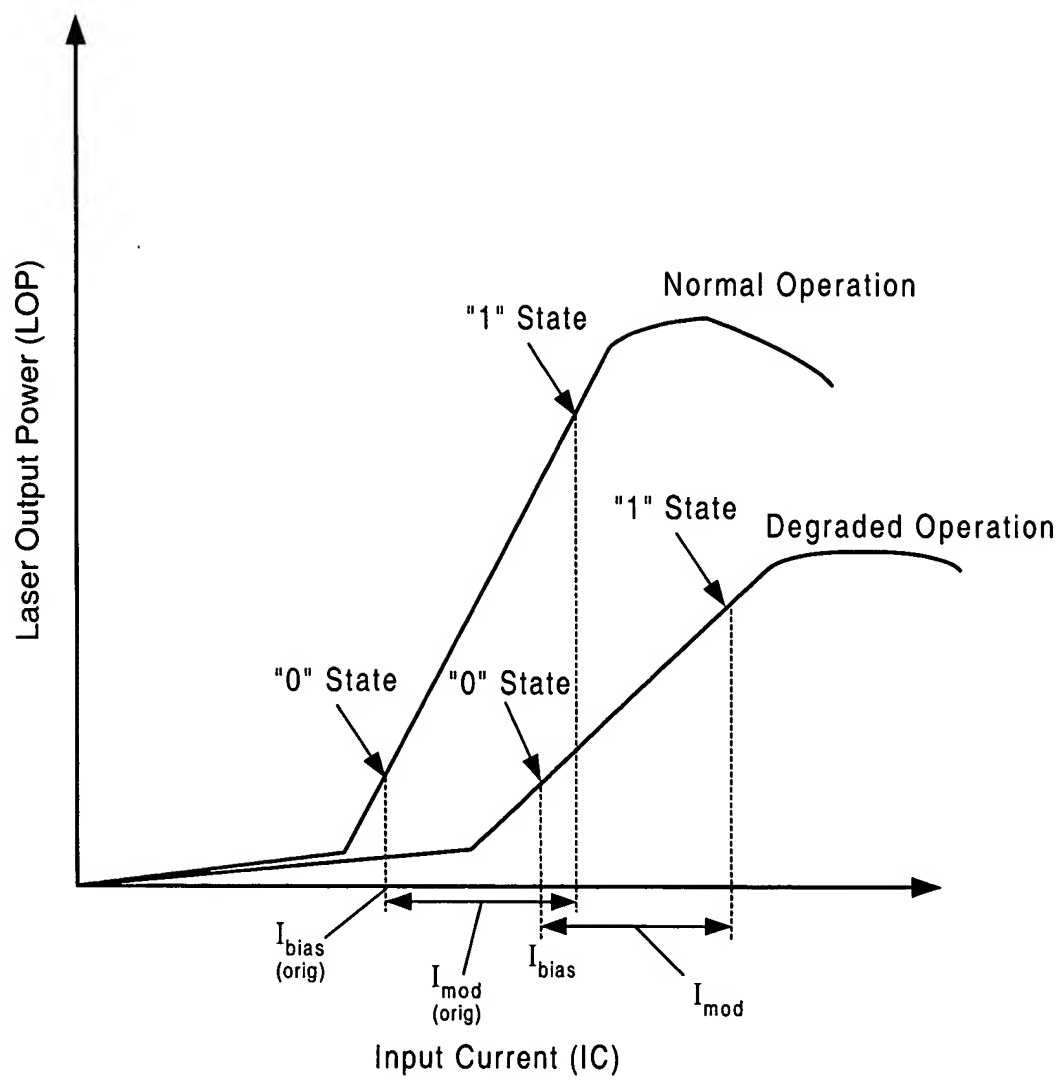


FIG. 3

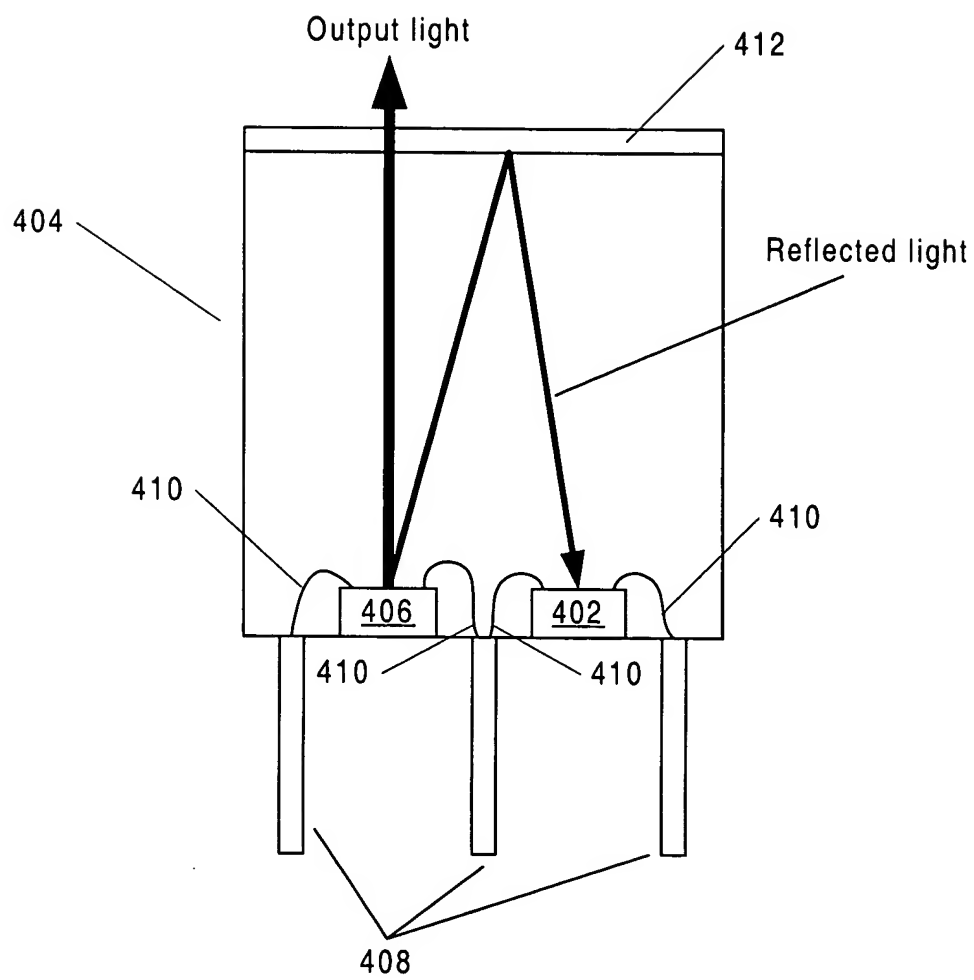


FIG. 4  
(Prior Art)

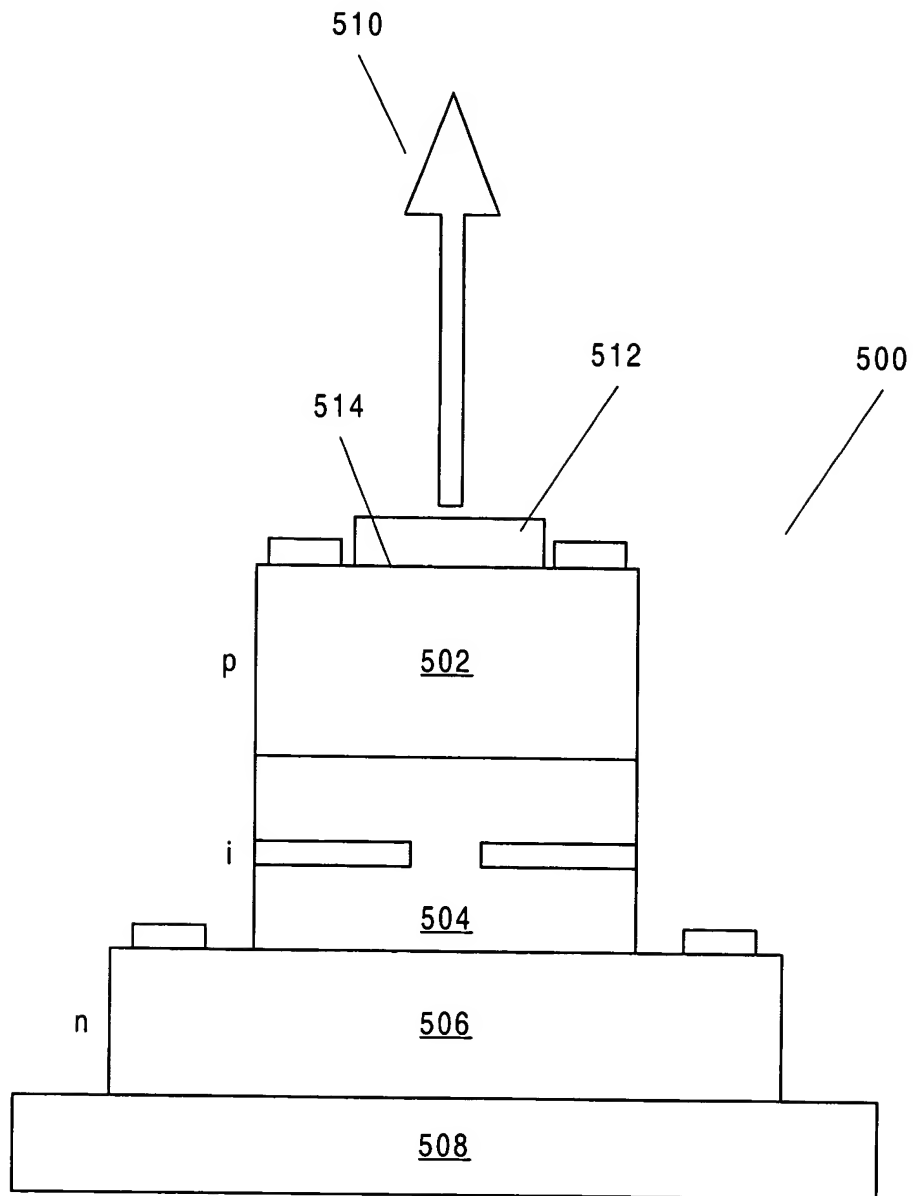


FIG. 5

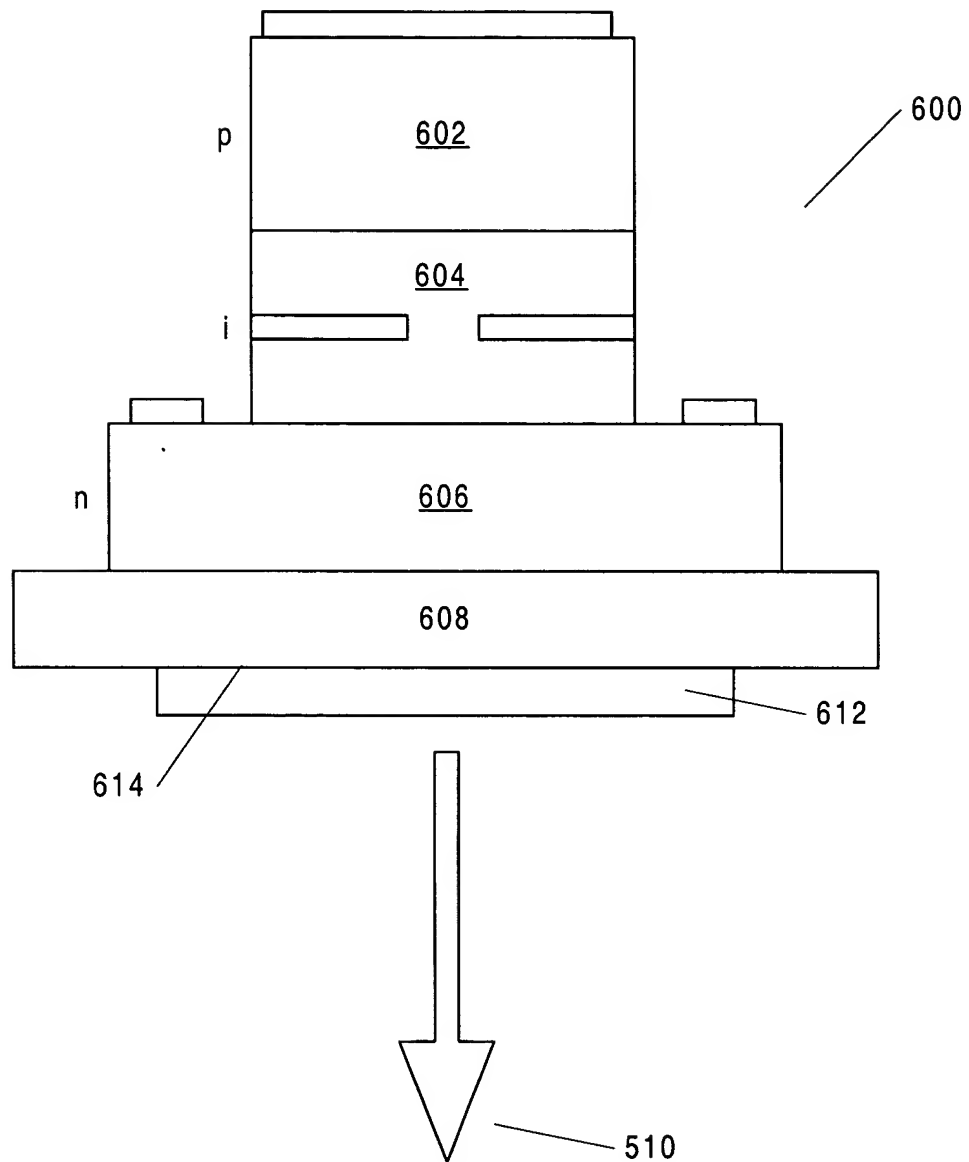


FIG. 6

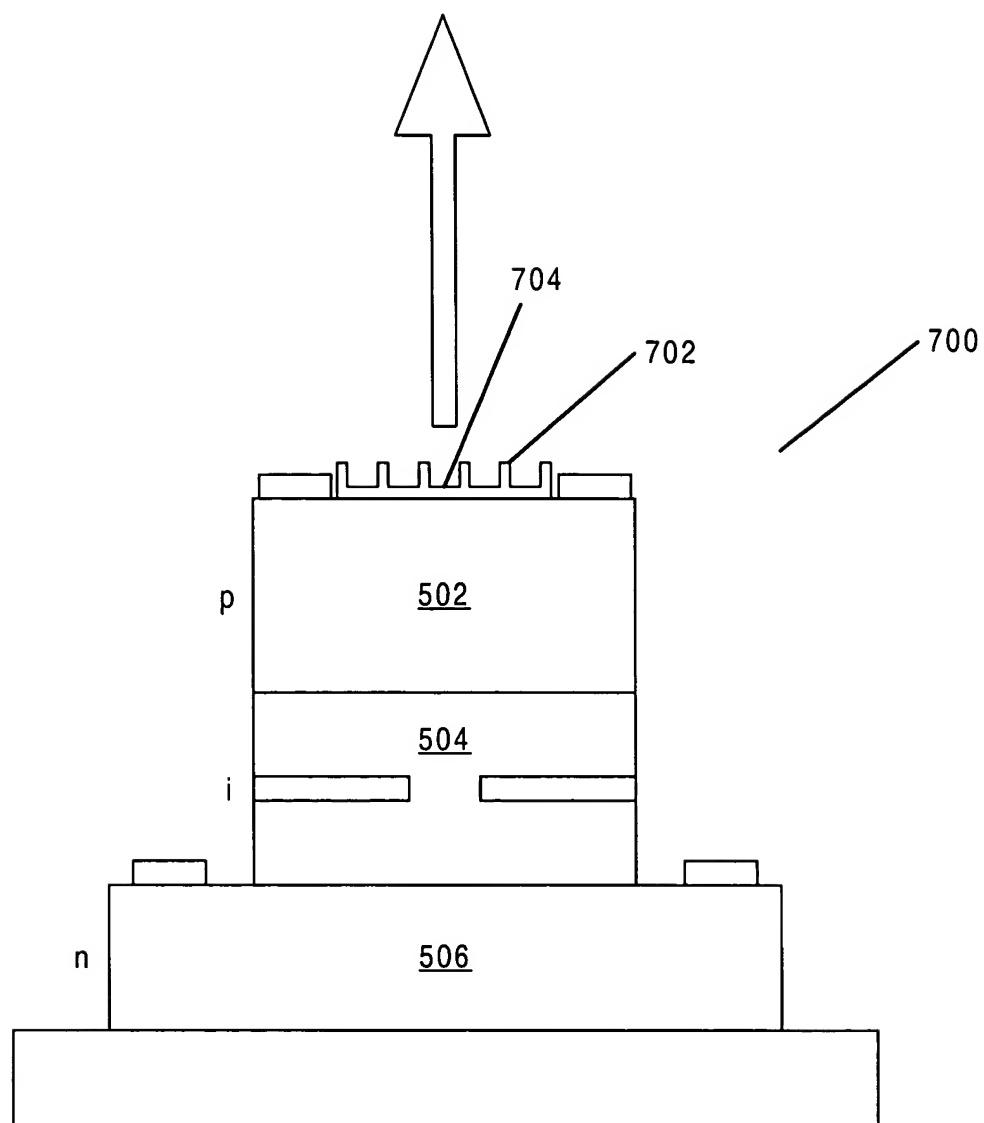


FIG. 7

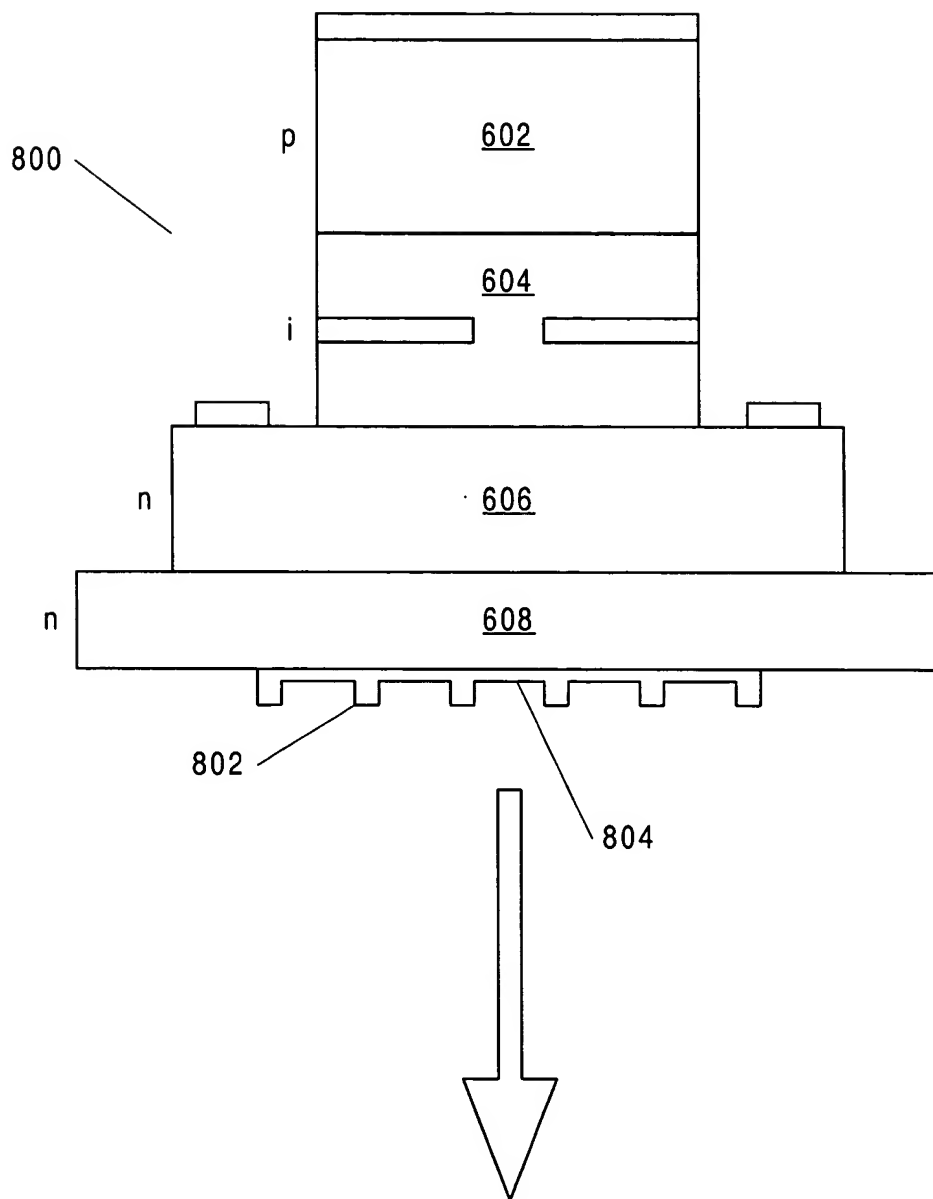


FIG. 8

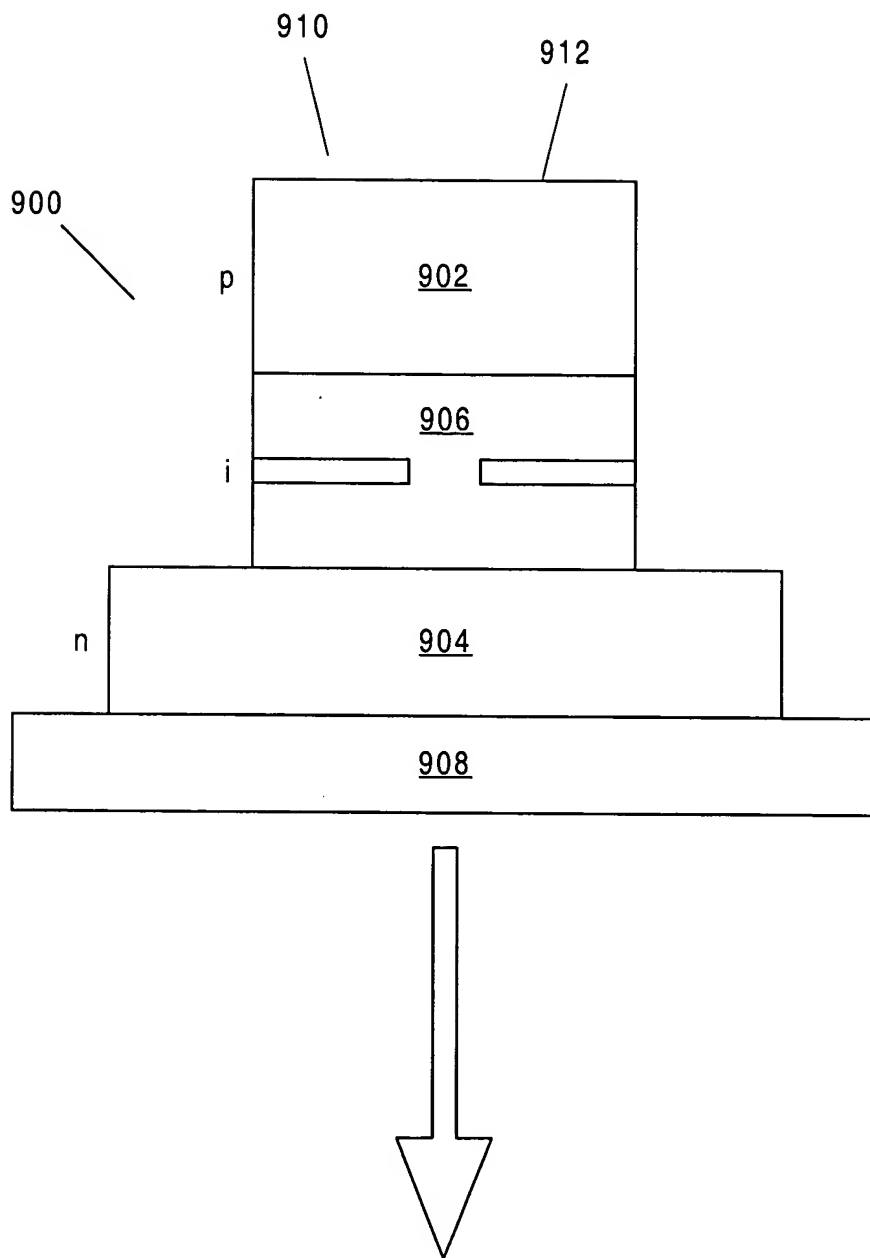


FIG. 9

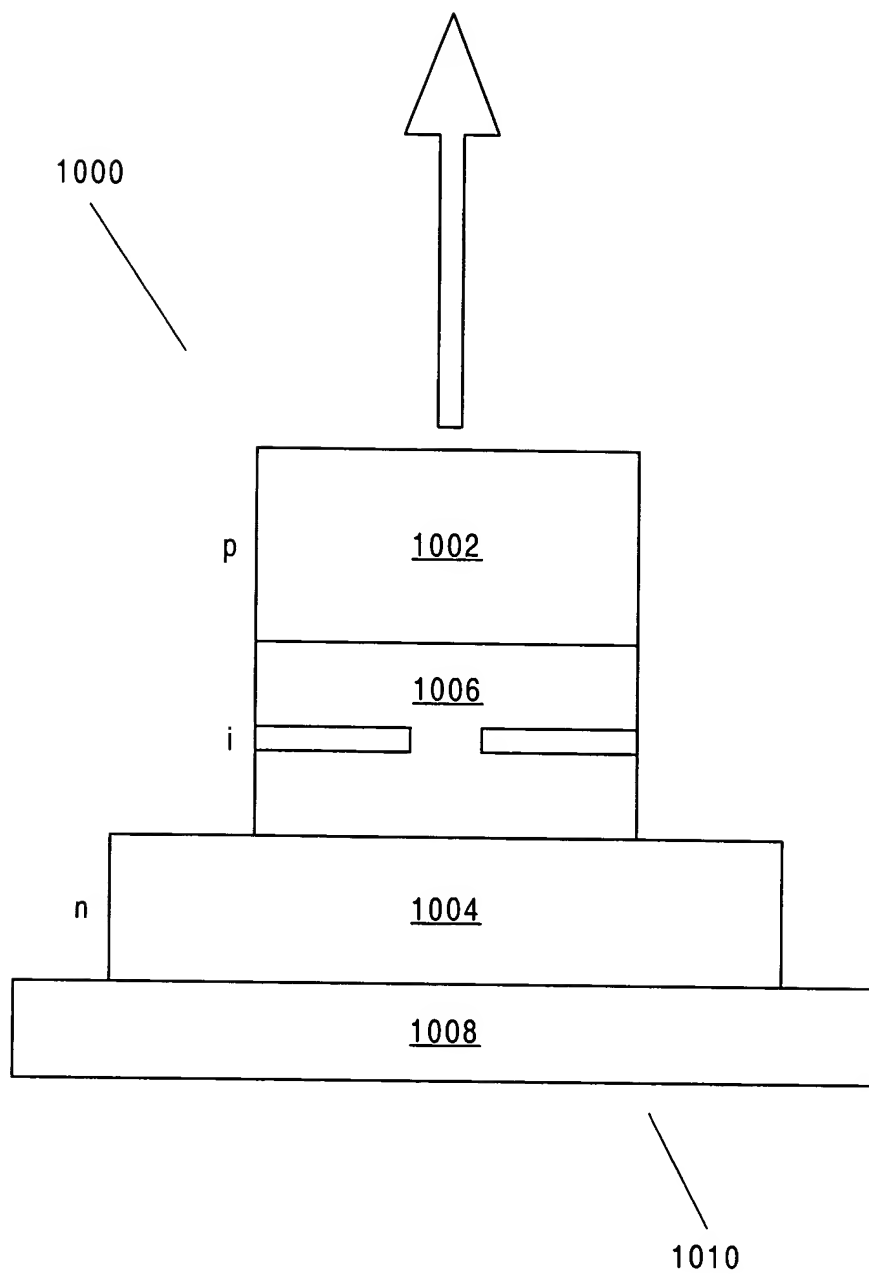


FIG. 10

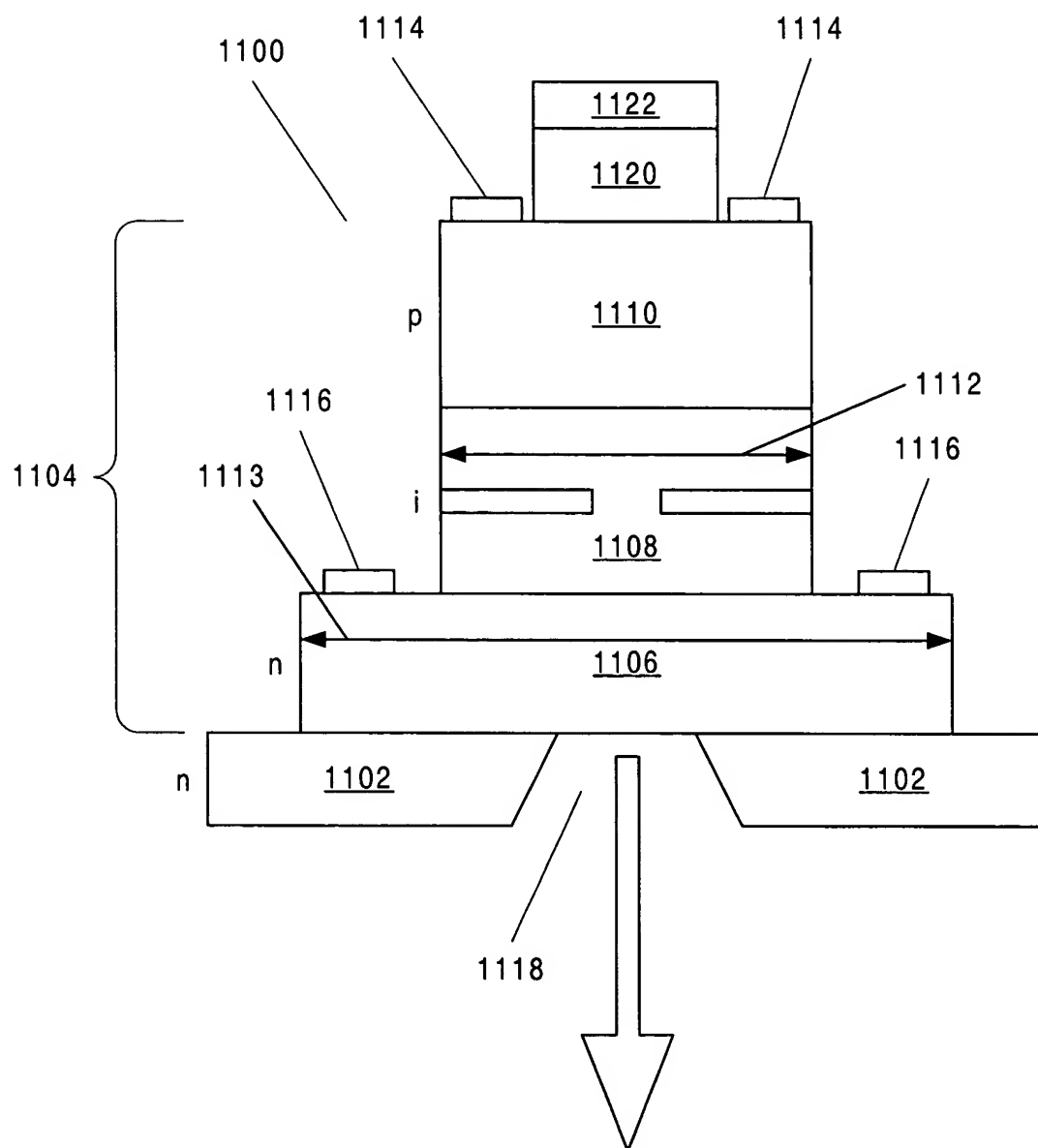


FIG. 11

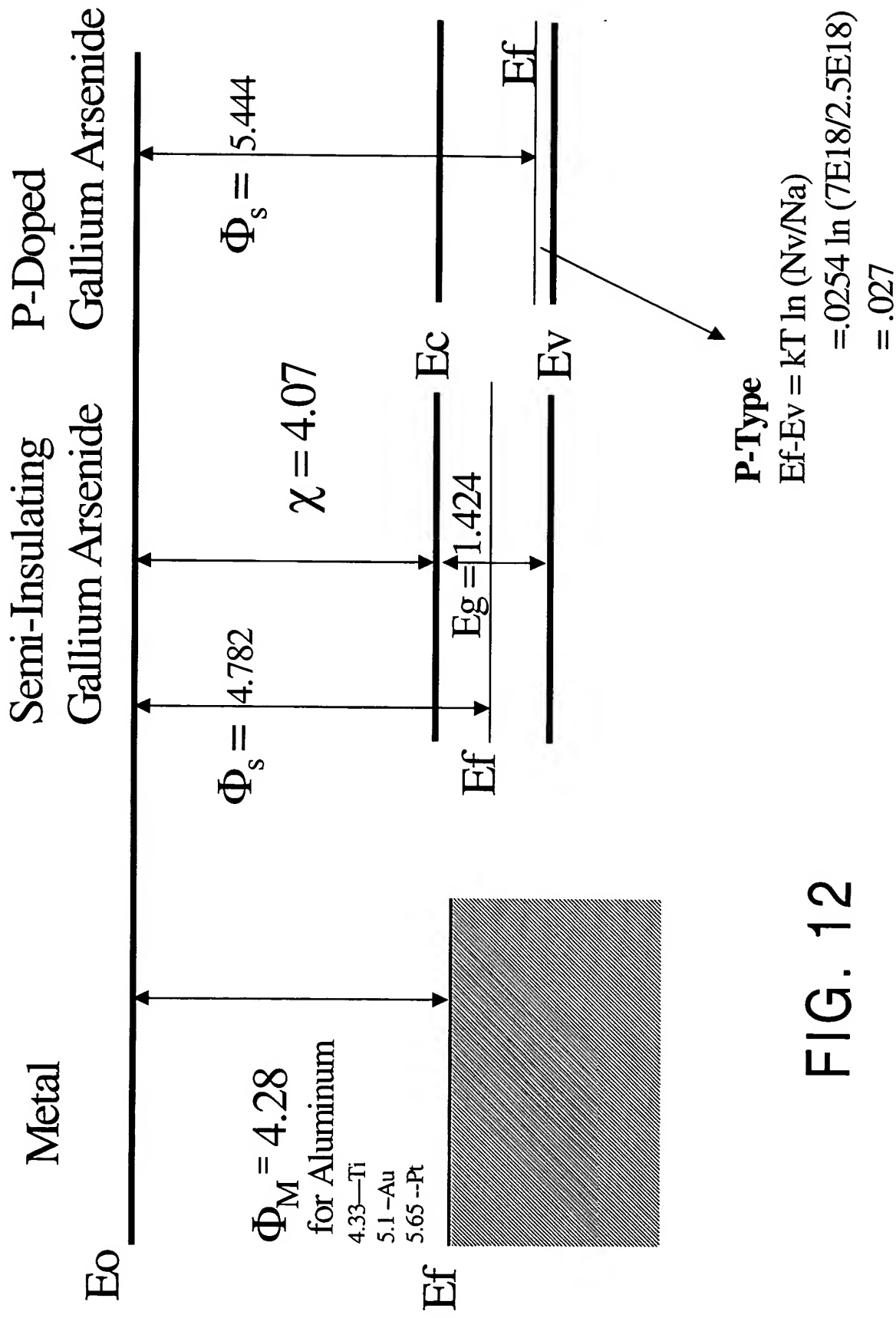


FIG. 12

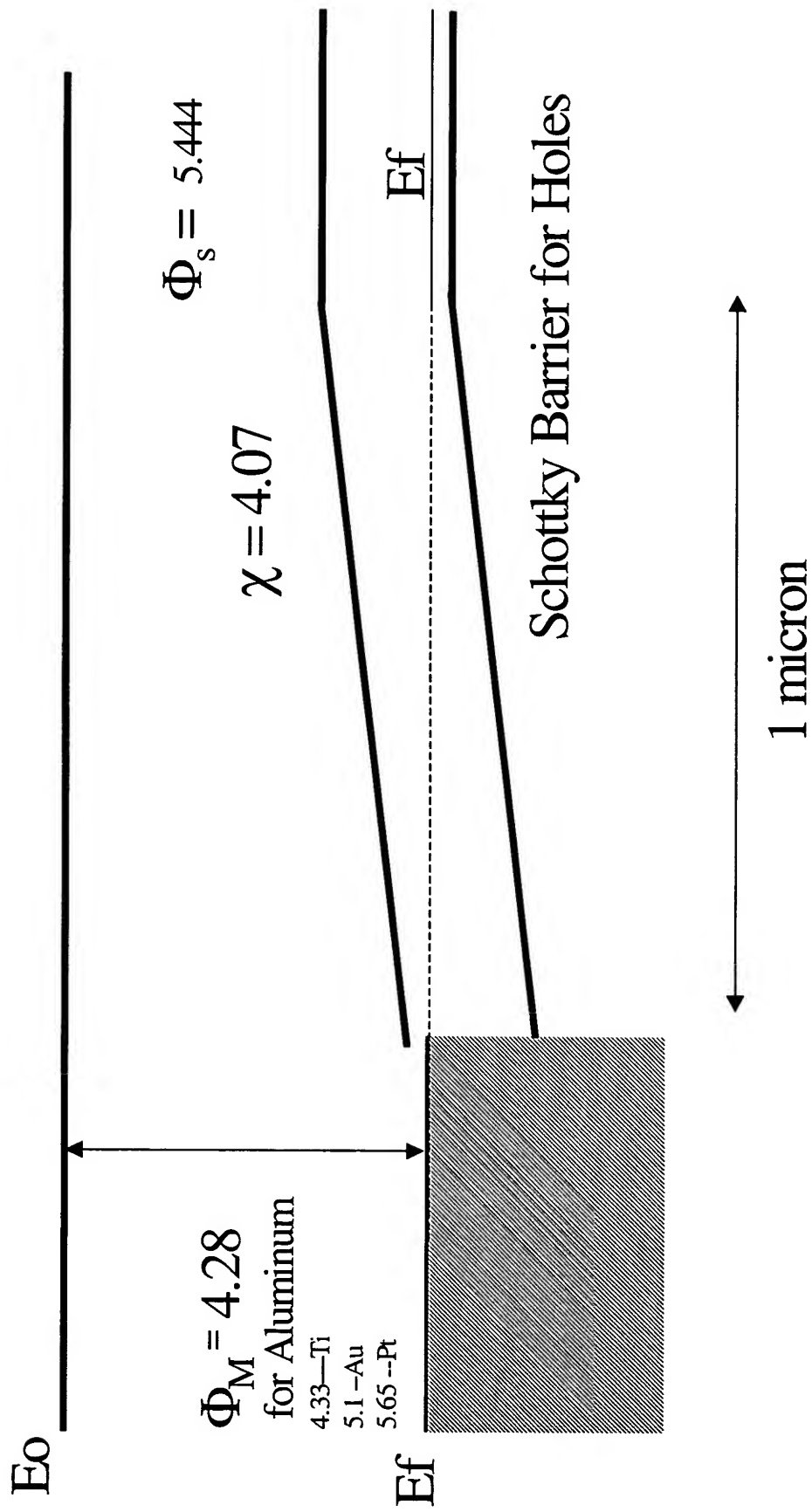


FIG. 13

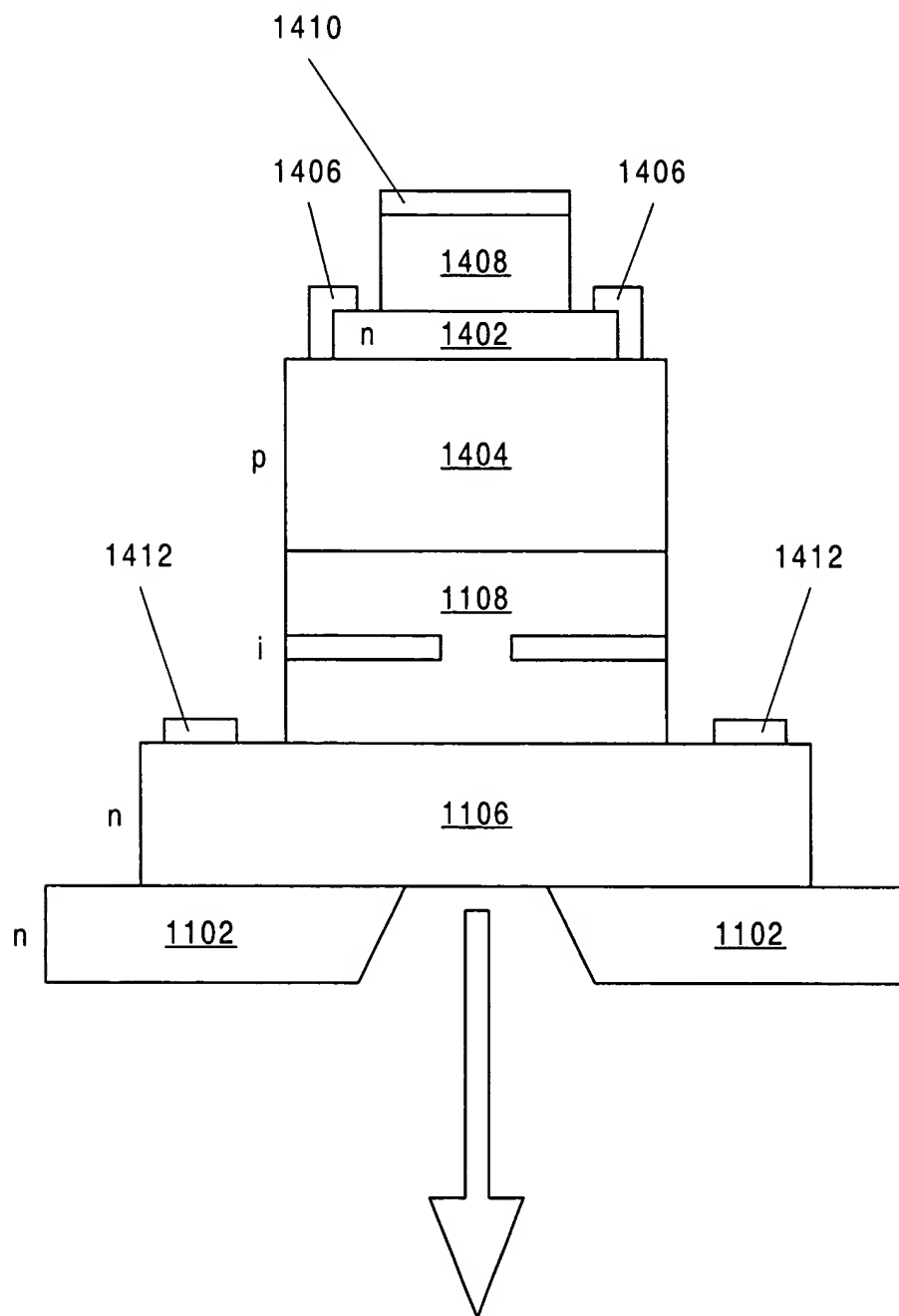


FIG. 14

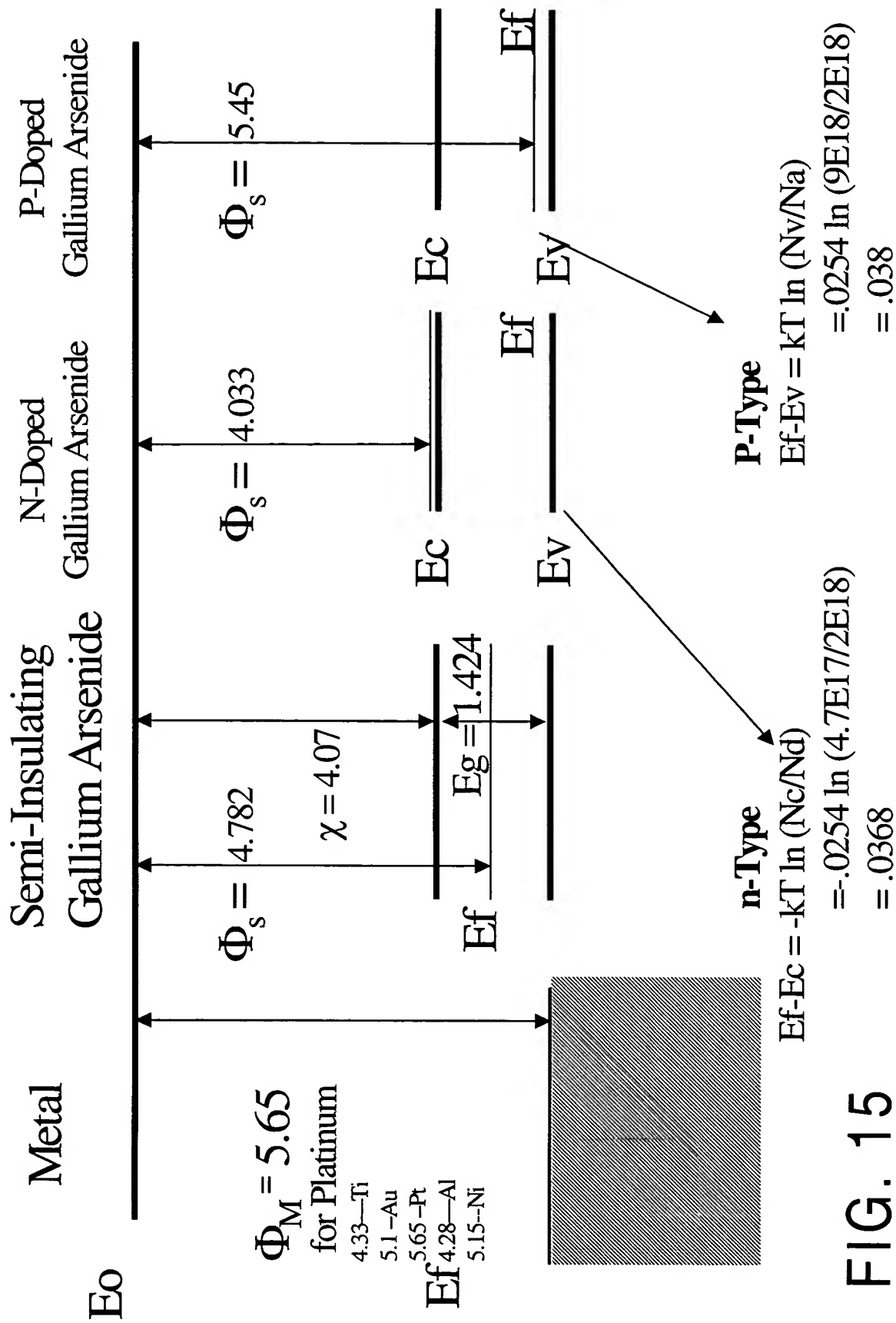
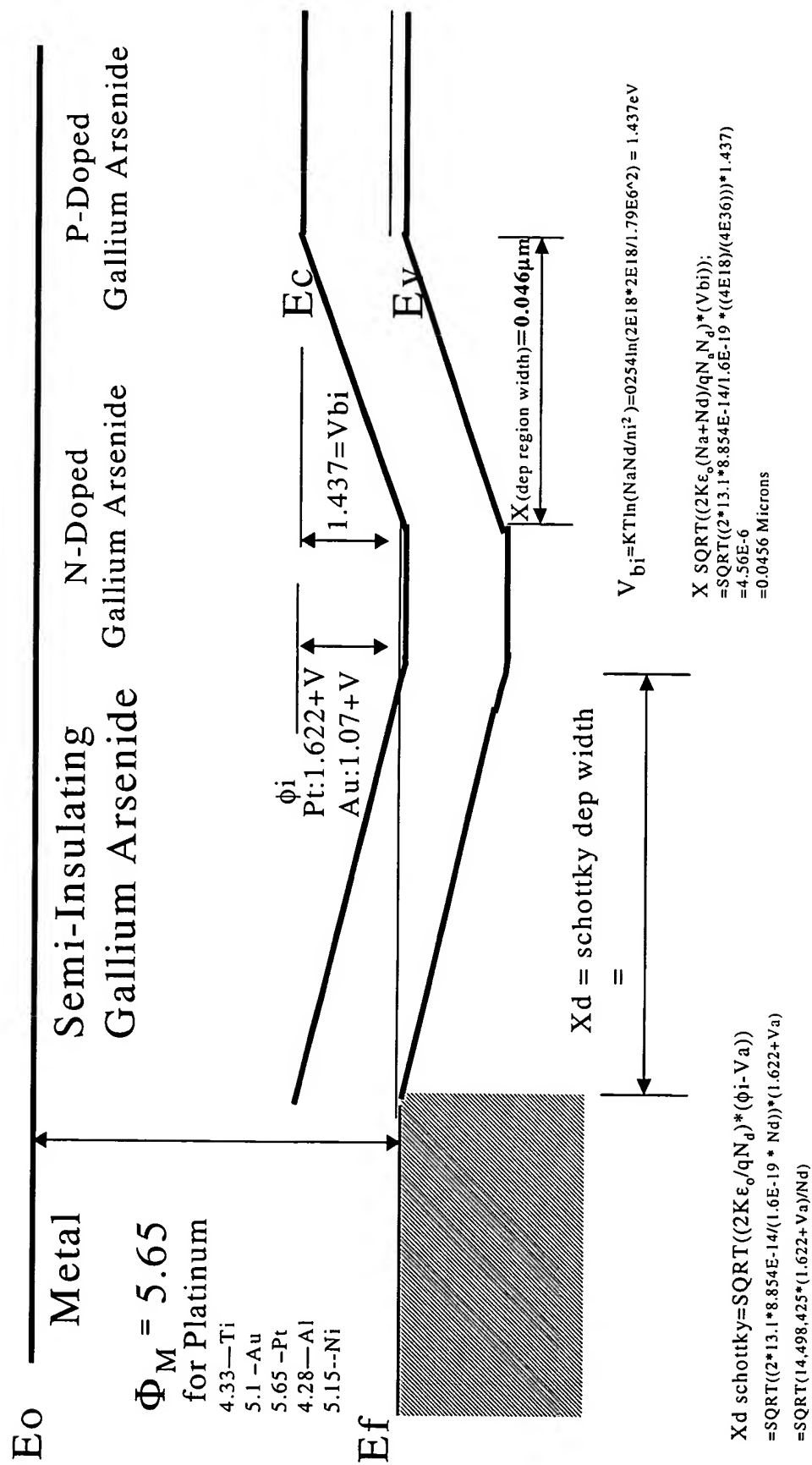


FIG. 15



| Nd   | Va  | Xd (micron) |
|------|-----|-------------|
| 1E15 | 0   | 1.53        |
| 1E15 | 3.3 | 2.67        |
| 2E18 | 0   | 0.048       |
| 2E18 | 3.3 | 0.085       |

Worst case depletion of n-region (from both sides) is:  
 0.085 microns + 0.046 microns = 0.131 microns (make  
 N-region bigger than this)

FIG. 16

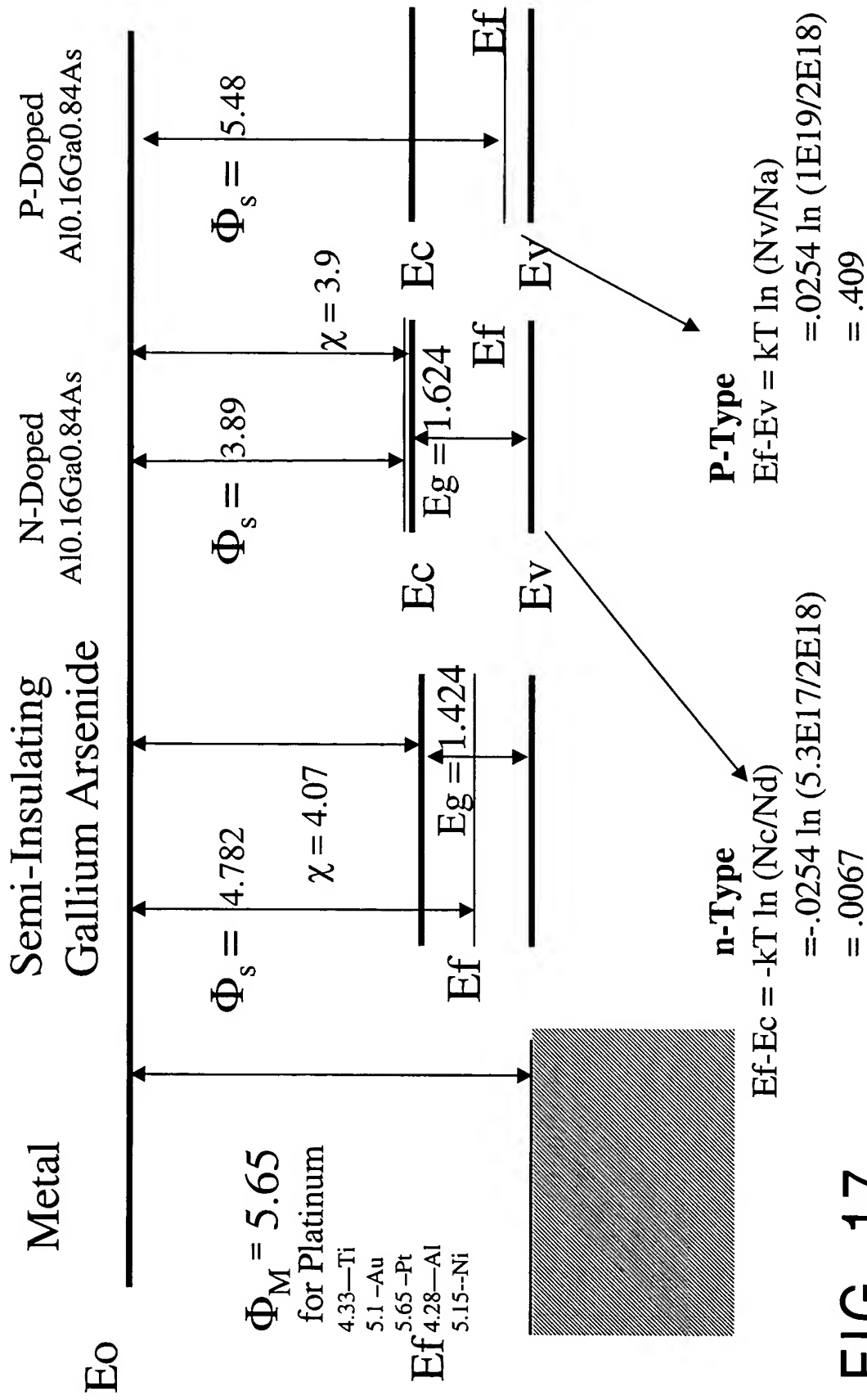
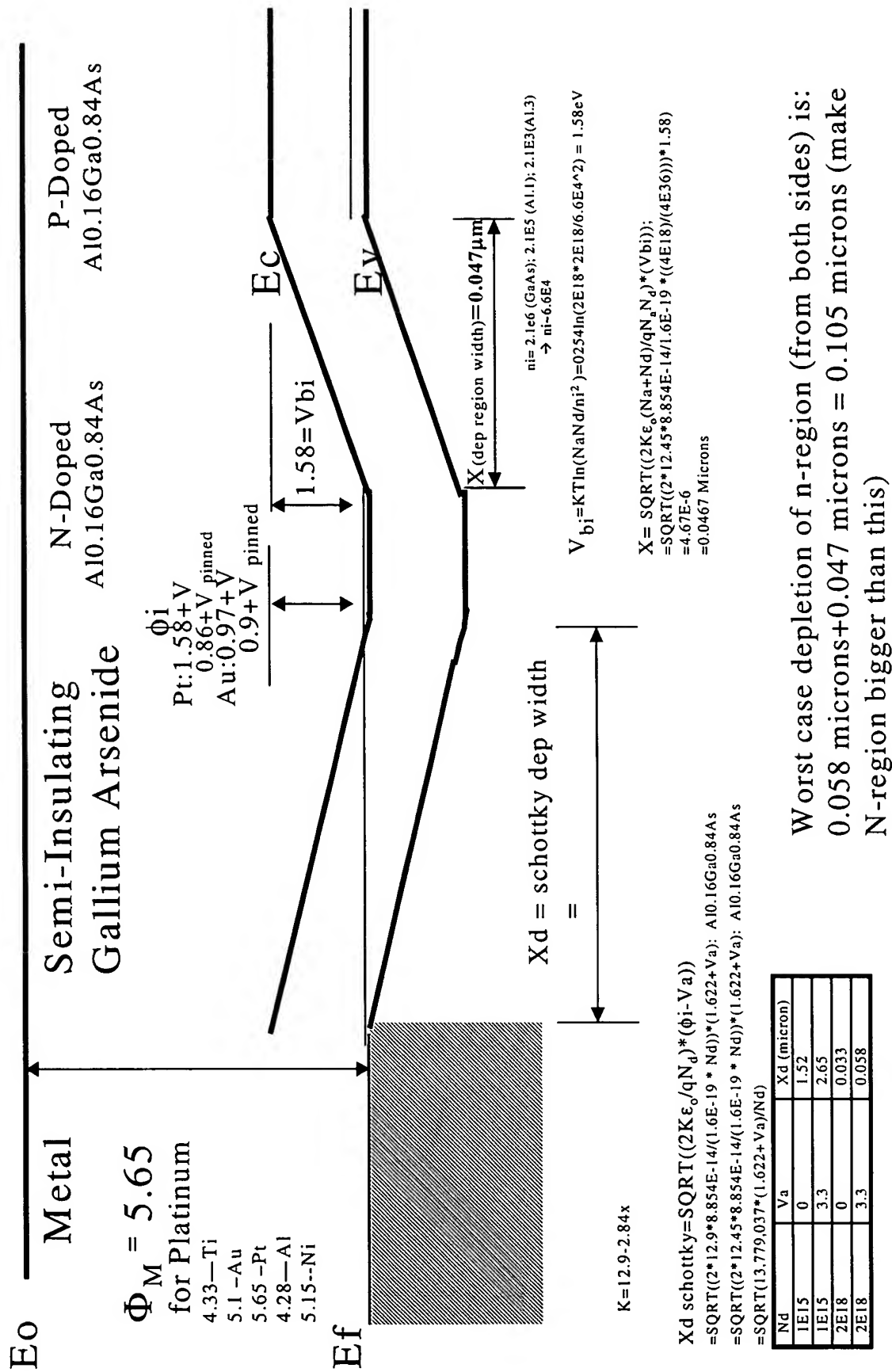


FIG. 17

$$N_c = 2.5E19(.063 + .083x)^{1.5} \text{ for } x < .41$$

$$N_v = 2.5E19(.51 + .25x)^{1.5}$$



Worst case depletion of n-region (from both sides) is:  
 0.058 microns + 0.047 microns = 0.105 microns (make N-region bigger than this)

FIG. 18

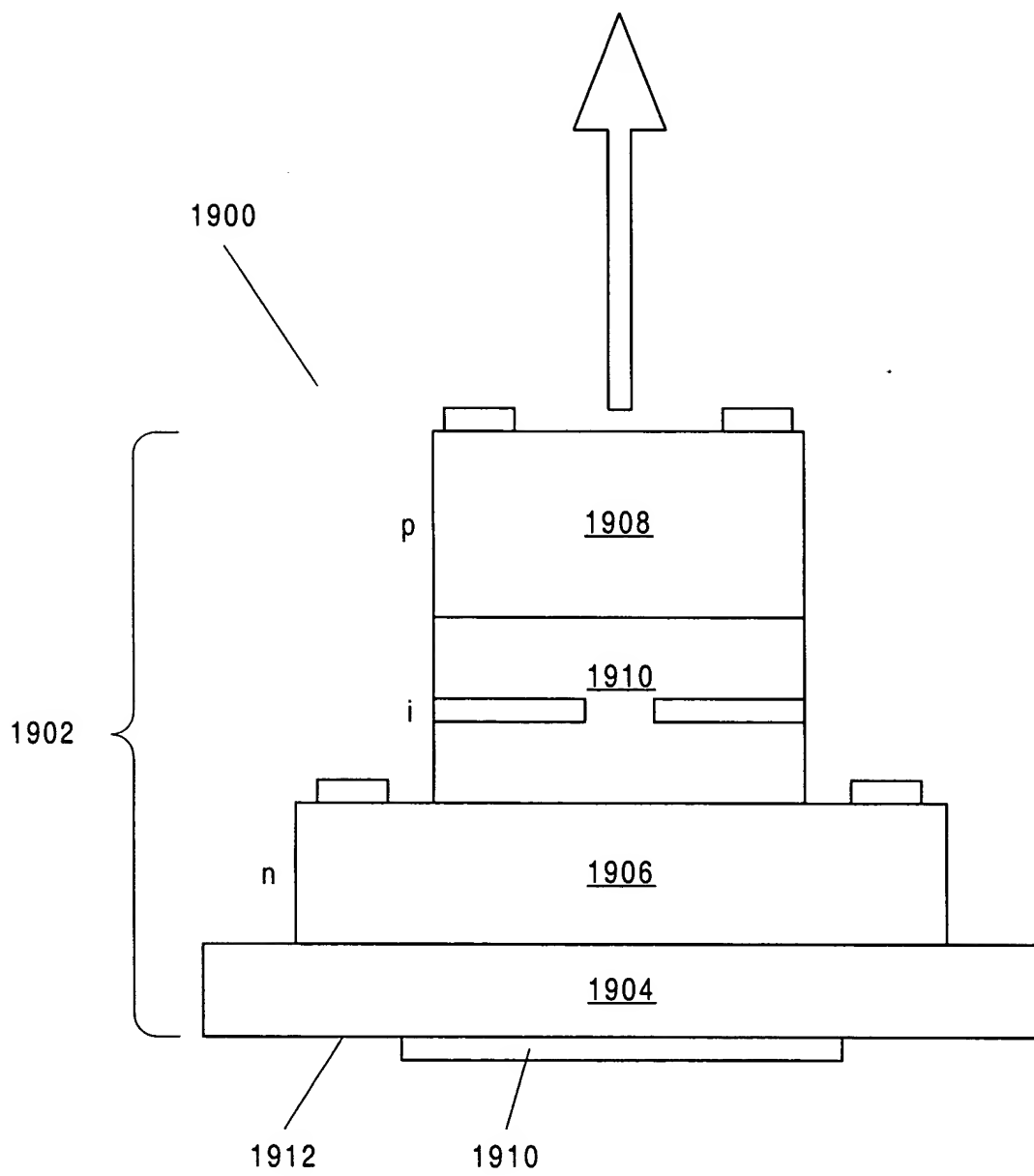


FIG. 19

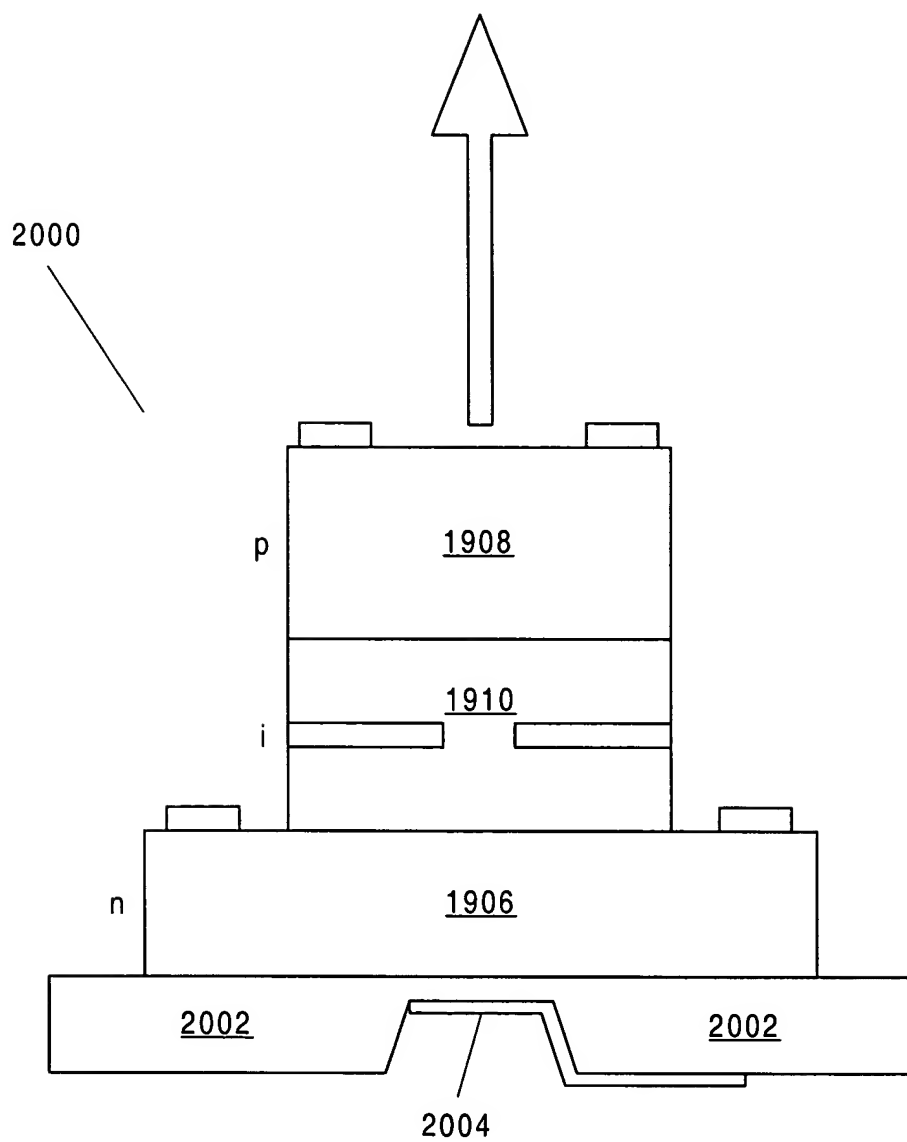


FIG. 20

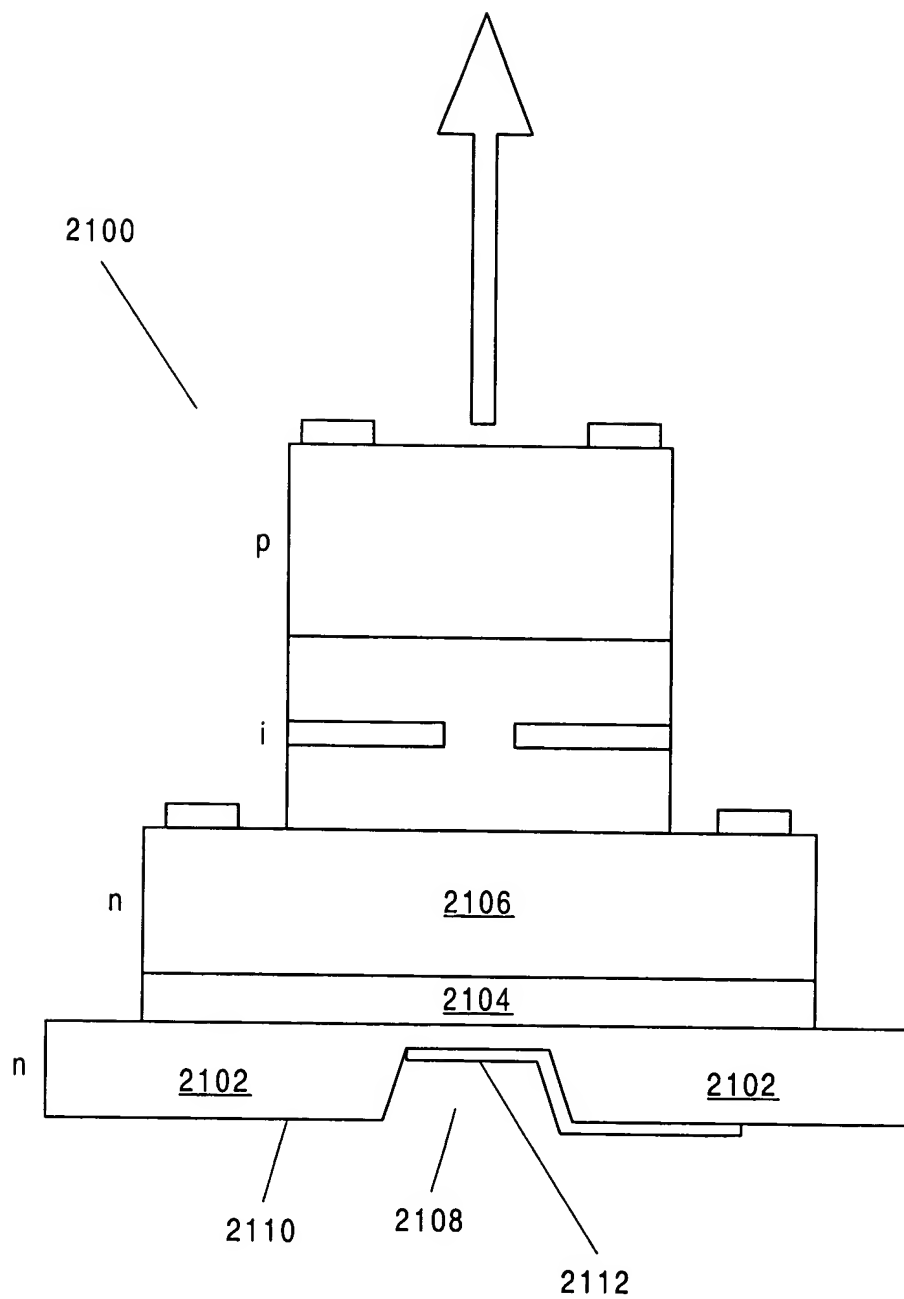


FIG. 21

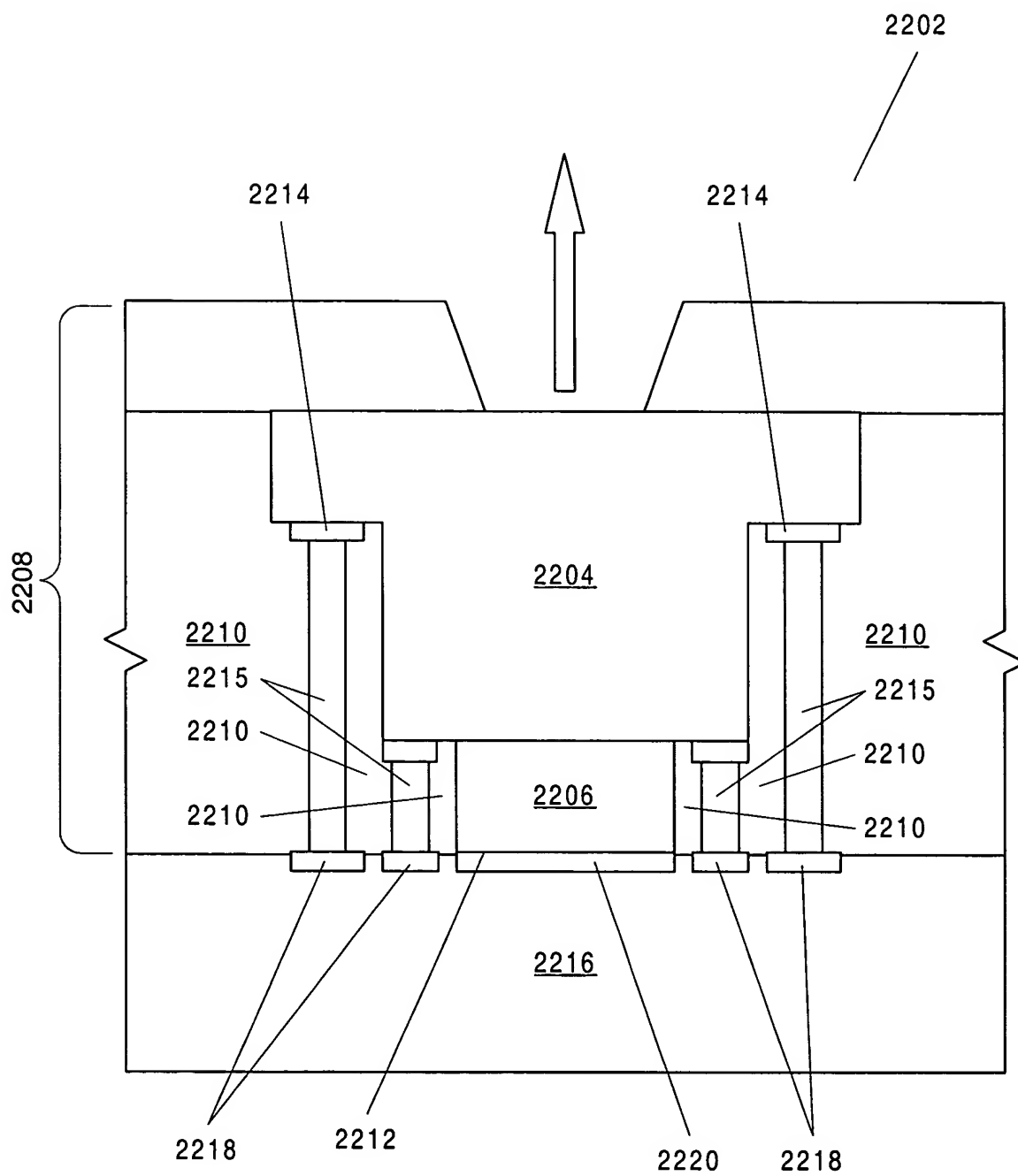


FIG. 22

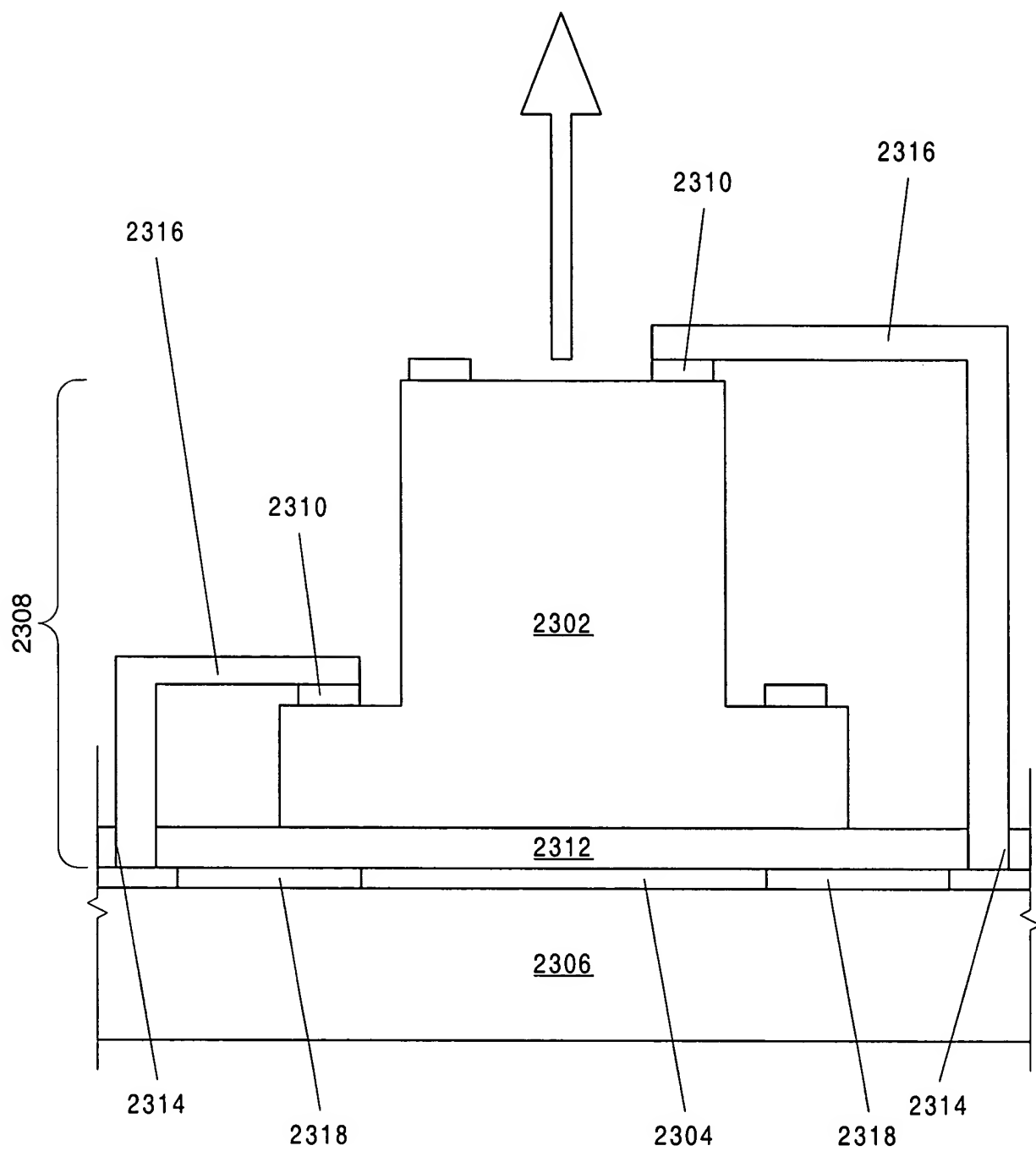


FIG. 23

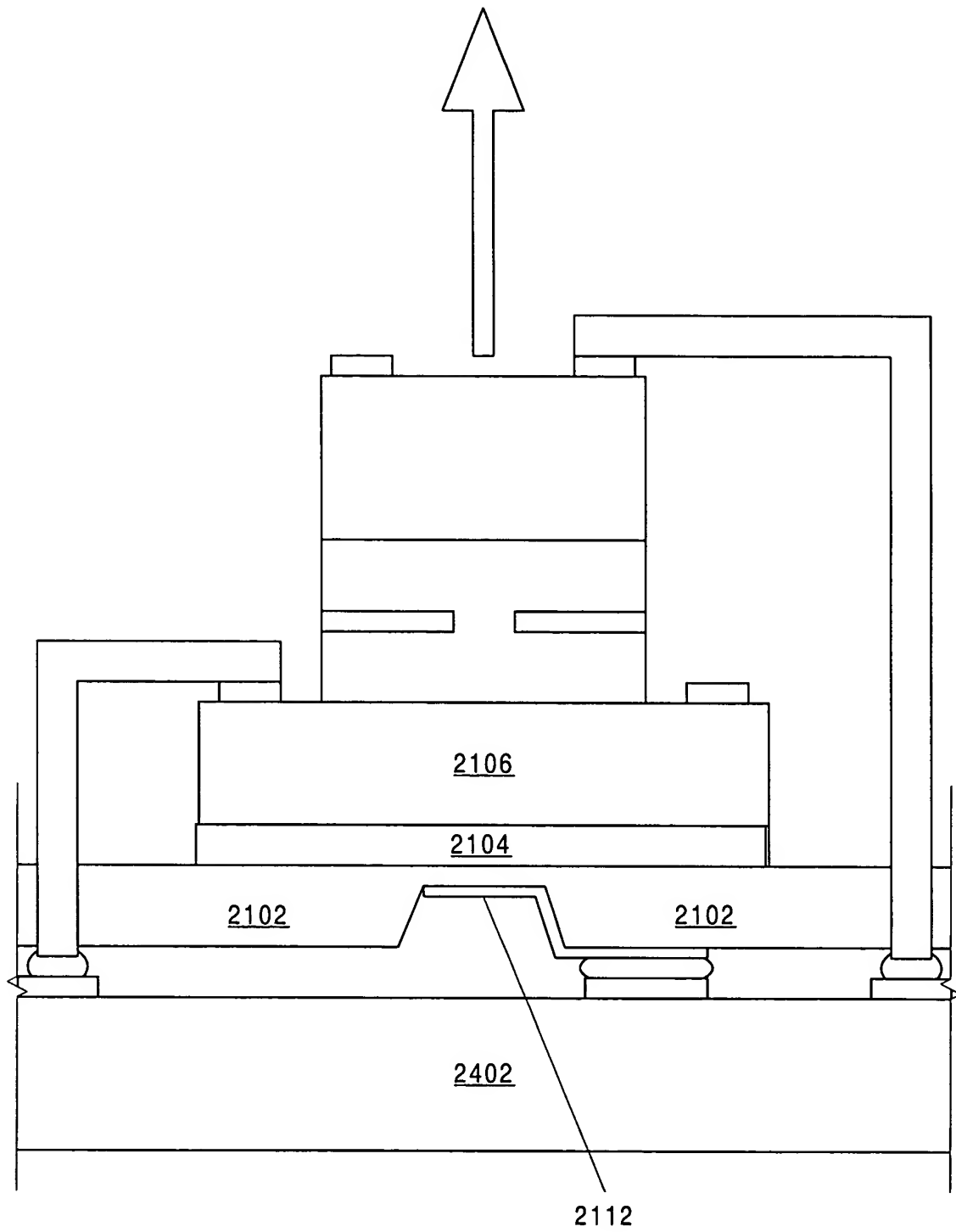


FIG. 24

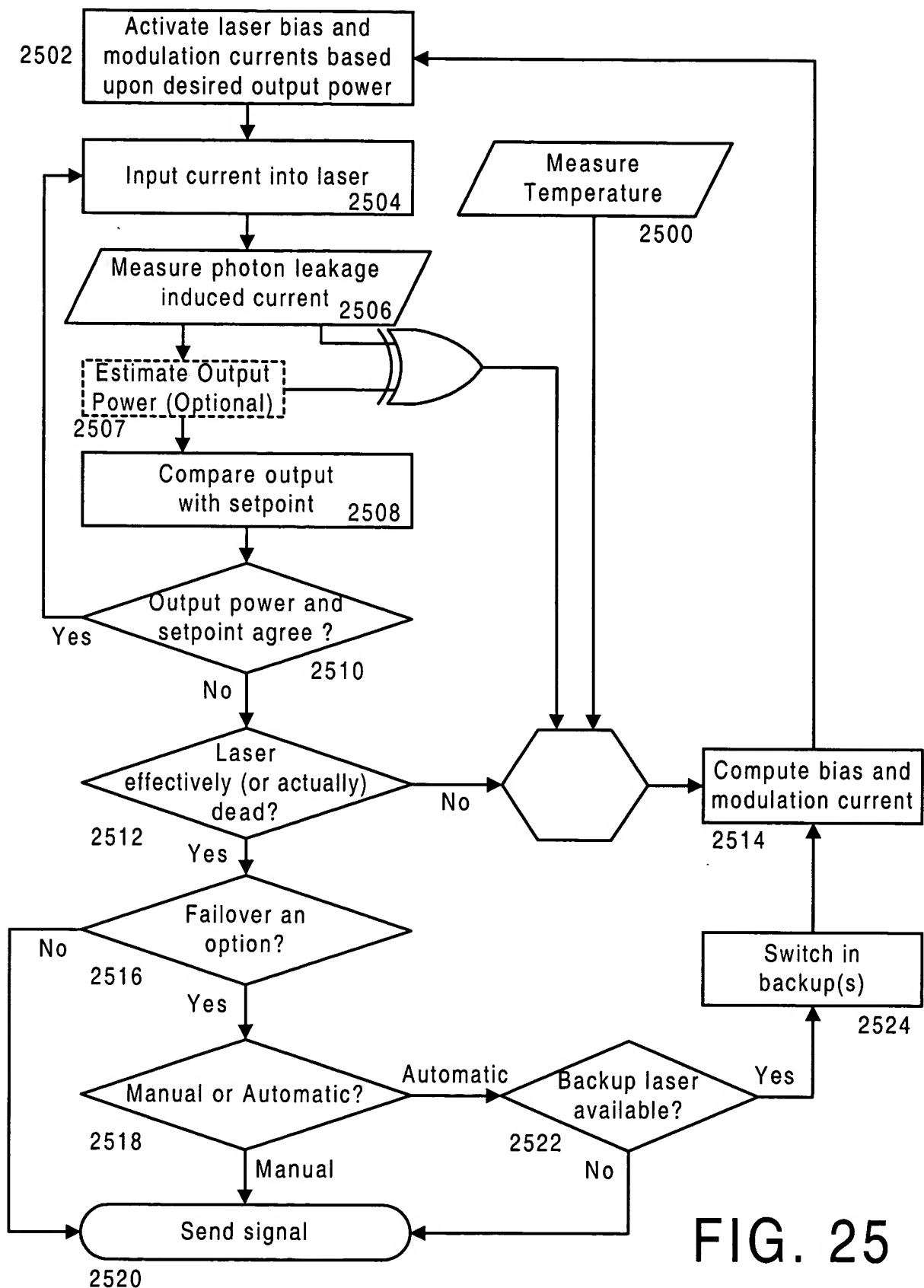


FIG. 25